U.S. Patent

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FIG.5

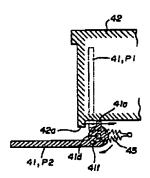
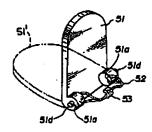


FIG.6



In addition, the barrier 1 is held in its fully closed position P1 or its fully open position P2 by means of a click mechanism, which will be described with reference to FIG. 3. FIG. 3 is a partial exploded perspective view showing the click mechanism for the barrier 1. In FIG. 3, hinge holes 23e are made in both sides of the barrier hinge 23 placed at a front lower portion of the front cover 3 and barrier shafts 1d protrusively formed on the rotational center portions of the barrier 1 are fitted in the hinge holes 23a, respectively, so that the barrier 1 is rotatable or swingable about the rotational center portions. Further, a projecting or convex cam 1a protruding along the barrier shaft 1d to serve as a click means is formed inside the hinge section of the barrier 1 and further recessed or concave cams 1b, 1c serving as click means and holding means are made in both sides of the cam 1a. Inside the barrier hinge 23, provided is a ball 24 acting as holding means and click means for exhibiting a click function when reaching the opening or closing state and further provided is a spring 25 serving as click means and holding means and biasing the ball 24 toward the barrier shaft 1d. Accordingly, the ball 24, biased by the spring 25, is urged into contact with the cams 1a, 1b and 1c. That is, the ball 24 is brought into contact with the cam 1b when the barrier 1 takes the fully closing position P1 while being brought into contact with the cam 1c when it takes the fully opening position P2. In addition, with the respect to the cam 1 a being at a substantially middle position between the fully closing position P1 and the fully opening position P2, the barrier 1 is rotationally biased in the closing direction or in the opening direction and held when reaching the fully closing position P1 or the fully opening position

Detailed Description Text - DETX (17):

Still further, a description will be taken hereinbelow of the modifications of the means to switch the biasing force to the barrier to the fully open position or to the fully closed position and of the click means to hold the barrier at the fully open position or at the fully closed position. FIG. 6 is a partial perspective view showing a modification of the barrier section in which the barrier is rotationally biased through employment of a spring with a different configuration, and FIG. 7 is a top plan view showing the spring built in the FIG. 6 barrier. A barrier 51 is rotatable about barrier rotary shafts 51d provided in opposite sides thereof, and as well as that of FIG. 1 the barrier 51 is fitted to the barrier hinge 23 of the front cover 3. Holes 51a are bored in the barrier 51 in the vicinity of the barrier rotary shafts 51d so that a spring 52 having a substantially M-like configuration as shown in FIG. 6 and acting as a biasing means is set into the holes 51a in such a manner that

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